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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,624	02/25/2002	Lennart Ahlgren	003300-894	8080

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EXAMINER

HOPKINS, ROBERT A

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,669

Applicant(s)

Ahlgren

Examiner

Robert A Hopkins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5-27-03.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 and 11-15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 16-21 is/are allowed.
- 6) ☒ Claim(s) 1-5, 16-21 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s)
- 4) ☐ Interview Summary (PTO-413) Paper No(s)
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claims 3 and 10 are objected to because of the following informalities:

Claim 3 line 5 recites "in which last separation step". Examiner believes -the-- should be inserted between "which" and "last" for grammatical clarity.

Claim 10 line 2 recites "preferably with wherein". Examiner believes "preferably with" should be deleted for grammatical clarity.

Appropriate correction is requested.

Claim Rejections - 35 USC § 112

Claims 4 ,5, and 21 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A step of mechanically separating the particles from the gas on each level is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Examiner notes that upon amendment to claim 4, a critical separation step was deleted from the claim. Examiner notes that the preamble clearly recites "a method for separating entrained particles from a gas", therefore , the deleting separation step is required and should be reinserted in claim 4. Claims 5 and 21 depend on claim 4 and hence is also rejected.

Claims 1-3 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 lines 9-10 recite "wherein the gas is allowed to flow". Examiner notes that the above recited limitations do not positively recite a method step, and therefore the scope of the claim is unclear. Examiner suggests substituting --wherein the gas flows-- for "wherein the gas is allowed to flow" in order to more positively state a method step. Claims 2,3, and 18 depend on claim 1 and hence are also rejected.

Claim 2 line 2 recites "the reversed r-direction". There is a lack of antecedent basis for "the reversed r-direction" in previous claim limitations.

Claim 19 line 2 and claim 20 line 2 recite "generally cylindrical shape, preferably with the separator elements being arranged essentially symmetrically". The term "preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of claimed invention. See MPEP 2173.05(d). Examiner suggests substituting --wherein-- for "preferably with", and substituting --are-- for "being", to more positively define the scope of the claim. Correction is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ruottu et al(6045688)

Ruottu et al teaches a method for separating entrained particles from a gas in a fluidized bed reactor system which comprises a separation region defined by a cylindrical coordinate system, the method comprising leading the gas in the z direction(annular riser 50 in figure 2), diverting the gas to flow substantially in the r-direction(vanes 51), while keeping the gas circumferentially distributed in $r\phi$ planes, wherein the gas flows from substantially the whole circumference of the separation region in the $r\phi$ planes, and mechanically separating the particles from the gas while the gas is flowing substantially in the r-direction.

Allowable Subject Matter

Claim 6-9,11-17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 6-9,11-15, and 17 were indicated as allowed for the reasons provided in the office action dated 3-20-03. Claim 16 was amended to overcome the 112 second paragraph rejection and hence is also allowed.

Claim 3 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim 3 recites "and after a last separation step of the at least one separation step in which the last separation step is directed towards a smaller r-value in the last separation step". Ruottu et al only discloses a single step of directing the gas from a larger r-value to a smaller r-value. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide multiple separation steps in which the last separation step is directed towards a smaller r-value in the last separation step because Ruottu et al does not suggest such a modification.

Response to Arguments

Examiner has thoroughly considered applicant's arguments dated 5-29-03 however the arguments are deemed to be not persuasive.

Applicant argues Ruottu et al discloses that air is caused to flow tangentially as a result of the vanes, and tangential flow is different than radial flow. Applicant argues thus, that Ruottu et al does not disclose a combination of steps including diverting the gas to flow substantially in the r-direction, while keeping the gas circumferentially distributed in $r\phi$ planes.

Examiner notes that the gas in Ruottu et al must flow in the r-direction before reaching the mechanical separating elements(vanes) , as in figure 2 of the current invention, wherein in figure 2 the gas must flow in the r-direction

before reaching the beams. Examiner notes that the claim does not say that the gas continues to flow in the r-direction after the mechanical separation step.

The claim clearly reads on a structure like Ruottu et al, wherein the vanes mechanically separate the particles(by centrifugal force), while the gas is flowing substantially in the r -direction(from the riser to the vanes, spanning a distance r). The tangential flow occurs as a part of the mechanical separation, wherein the tangential flow follows the radial flow. Examiner notes that the gas cannot flow from a z-direction directly into tangential flow within the vanes without first passing a predetermined radial distance into the vertically oriented vanes.

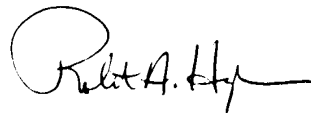
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A Hopkins whose telephone number is 703-308-3913. The examiner can normally be reached on Monday-Friday 9:00am-3:00pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9572 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Robert A Hopkins
Primary Examiner
Art Unit 1724

rah
April 4, 2003